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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/081,247	02/22/2002	Robert L. Gerlach	F073	9793

25784 7590 03/31/2003

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EXAMINER

TRAN, CHUC

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 03/31/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,247

Applicant(s)

GERLACH ET AL.

Examiner

Chuc D Tran

Art Unit

2821

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-5, 20-37 and 39 is/are allowed.
- 6) ☒ Claim(s) 6-8 and 38 is/are rejected.
- 7) ☒ Claim(s) 9-19 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 6-8, are rejected under 35 U.S.C. 102(e) as being anticipated by Nakasuji et al (US2002/0109090).

Regarding claim 6, Nakasuji et al disclose an electron beam system comprising:

- a system vacuum chamber (1) containing a target (60) (Fig. 1) (Col. 4b, Line 51);
- an intermediate vacuum chamber (30), in selective communication with the system vacuum chamber through a vacuum isolation valve (Col. 6b, Line 12);
- an electron gun (721) position within each of the intermediate vacuum chamber (30) (Fig. 1) (Col. 10a, Line 16) (Fig. 8).

Regarding claims 7-8, Nakasuji et al disclose an electron beam system comprising:

- an electron optical column (71) includes at least one electron optical element (70) that is within the intermediate vacuum chamber (30) (Col. 12a, Line 30) (Fig. 1); wherein
- the electron optical element (70) that is within the system vacuum chamber (1) (Fig. 1).

Claim Rejections - 35 USC § 102

Art Unit: 2821

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 38 is rejected under 35 U.S.C. 102(b) as being anticipated by Meisburger et al (USP. 5,502,306).

Regarding claim 38, Meisburger et al disclose an electron beam system comprising:

- deflectors (113) (Fig. 4) for deflecting an electron beam (Col. 9, Line 27), an objective lens (104)(Fig. 4) for focusing the electron beam (Col. 16, Line 49) of finely focusing electron columns in a charged particle beam system (Col. 16, Line 49) and applying a relatively small voltage to deflector that are positioned above the objective lens (104) (Col. 8, Line 12) (Col. 9, Line 5).

Allowable Subject Matter

5. Claims 1-5, 20-37 and 39 are allowed.

6. The following is an examiner's statement of reasons for allowance:

7. The prior art of record fails to appreciate the advantage offered by an electron beam system including multiple electron sources with the following distinctive features such as set by all of the independent claims. In particular, the art of record fails to teach or fairly suggest constructing a multiple electron gun chambers positioned within each of the intermediate vacuum chambers, each electron gun chamber including an electron source and a gun chamber vacuum isolation valve for vacuum isolating the gun chamber so that the intermediate chamber can be opened to replace an electron gun chamber without exposing the interior of the remaining

Art Unit: 2821

electron gun chambers to air, and the group of isolation valves allowing the intermediate chamber to be vacuum isolated from the system chamber to allow opening the system chamber without exposing the interior of the other intermediate chamber to air; wherein the electron gun including a suppressor adjacent to the emitter for suppressing the unwanted emission of the electrons; and the method of unsealing the sealable gun chamber, thereby providing a path for one or more electron beam from the one or more electron sources to a target posses all of the distinctive features such as defined by independent claims 1, 20, 25, 29, 36 and 39 to put the electron beam system back into production, without the delay of conditioning the new electron gun in the system.

8. Claims 9-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Citation of relevant prior art

Prior art Meisburger et al (USP. 5,502,306) disclose an eletron beam system.

Prior art Yamazaki et al (USP. 5,528,034) disclose a method of ultra high sensitivily hydrogen detection.

Prior art Nakasuji et al (US. 2002/0109090) disclose an elecron beam system.

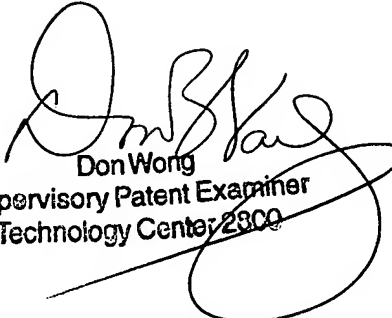
Art Unit: 2821

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D Tran whose telephone number is (703)306-5984. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (703)308-4856. The fax phone numbers for the organization where this application or proceeding is assigned are (703)308-7722 for regular communications and (703)308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0956.

TDC
March 24, 2003


Don Wong
Supervisory Patent Examiner
Technology Center 2800